AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for connecting one of several customer premises equipment, via an ATM network to one of several service providers, said method comprising:

connecting each customer premises equipment to an ATM network via a corresponding network termination point;

forming an access server function, having a permanent virtual connection to each network termination point ~~NT~~ and a connection to each service provider;

establishing a tunneling protocol on said permanent virtual connection between each network termination point ~~NT~~ and said access server function, said tunneling protocol being able to support an integrated signaling protocol;

the customer premises equipment or its user selecting an appropriate service provider by using said integrated signaling protocol;

performing routing from said customer premises equipment to said selected service provider by said access server function; and

said access server function connecting the customer premises equipment to the selected service provider using said integrated signaling protocol.

2. (Previously presented) The method according to claim 1, further comprising providing one permanent virtual connection from the access server function to each service provider.

3. (Previously presented) The method according to claim 1, further comprising providing a pool of permanent virtual connections from the access server function to each service provider; and allocating one connection to each network termination point from said pool.

4. (Previously presented) The method according to claim 1, further comprising establishing one switched virtual connection from the access server function to each service provider, on the basis of signaling which the access server function receives from said customer premises equipment via said tunneling protocol.

5. (Previously presented) The method according to claim 1, further comprising establishing said tunneling protocol only in response to detecting appropriate activity in said customer premises equipment.

6. (Previously presented) The method according to claim 1, further comprising establishing said tunneling protocol permanently and initiating said integrated signaling and authenticating the user of said customer premises equipment only in response to detecting appropriate activity in said customer premises equipment.

7. (Previously presented) The method according to claim 1, further comprising authenticating the user of said customer premises equipment both by said access server function and by the selected service provider.

8. (Currently Amended) A network element providing an access server function for connecting each of several customer premises equipment, via an ATM network to one of several service providers, said network element comprising:

interface means to several network termination points~~, or network termination points~~ for connecting each customer premises equipment to the ATM network via a corresponding network termination point; and

interface means to each service provider for providing a permanent virtual connection or a switched virtual connection thereto;

means for using a tunneling protocol on said permanent virtual connection between itself and each network termination point, said tunneling protocol being able to support an integrated signaling protocol;

means for selecting an appropriate service provider in response to signaling from each customer premises equipment or its user, said selecting being carried out using said integrated signaling protocol;

means for supporting routing from each customer premises equipment to said selected service provider; and

connecting each customer premises equipment to the selected service provider using said integrated signaling protocol.

9. (Previously presented) The network element according to claim 8 further comprising means for providing one permanent virtual connection from itself to each of several service providers.

10. (Previously presented) The network element according to claim 8, further comprising means for providing a pool of permanent virtual connections itself to each service provider and to allocate on connection to each active network termination pint from said pool.

11. (Previously presented) A network element access server function according to claim 8, further comprising means for providing a switched virtual connection from itself to at least one service provider.

12. (Previously presented) The network element according to claim 8, further comprising means for providing a separate tunnel from itself to each of several customer premises equipments.

13. (Currently amended) The network element according claim 8, further comprising means for cooperating with a [[an]] network termination point between itself and each customer premises equipment, said network termination point being arranged to provide a separate tunnel from itself to each of several customer premises equipments and to combine the separate tunnels into fewer tunnels, from itself to the network element.

14. (Previously presented) The network element according to claim 13, wherein the number of said fewer tunnels is one.